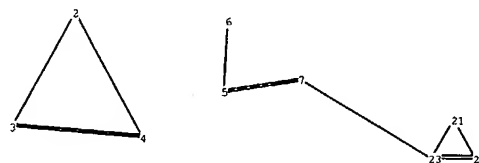
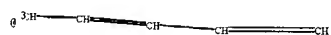
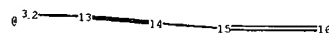
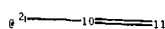


CH¹



CH¹



chain nodes :

5 6 7 8 9 10 11 12 13 14 15 16

ring nodes :

2 3 4 21 22 23

chain bonds :

5-6 5-7 7-23 9-10 10-11 12-13 13-14 14-15 15-16

ring bonds :

2-3 2-4 3-4 21-22 21-23 22-23

exact/norm bonds :

2-3 2-4 3-4 5-6 5-7 7-23 9-10 10-11 12-13 13-14 14-15 15-16 21-22 21-23 22-23

isolated ring systems :

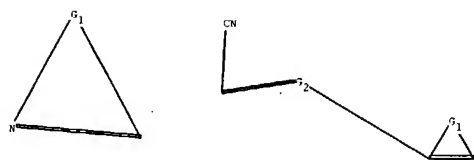
containing 2 : 21 :

G1:O,S,N,Se,Ak

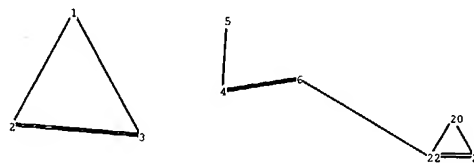
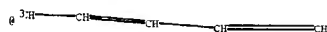
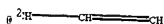
G2:[*1],[*2],[*3]

Match level :

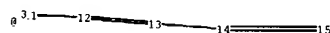
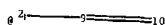
2:Atom 3:Atom 4:Atom 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:CLASS 11:CLASS
12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 21:Atom 22:Atom 23:Atom



8 1



7 1



chain nodes :

4 5 6 7 8 9 10 11 12 13 14 15

ring nodes :

1 2 3 20 21 22

chain bonds :

4-5 4-6 6-22 8-9 9-10 11-12 12-13 13-14 14-15

ring bonds :

1-2 1-3 2-3 20-21 20-22 21-22

exact/norm bonds :

1-2 1-3 2-3 4-5 4-6 6-22 8-9 9-10 11-12 12-13 13-14 14-15 20-21 20-22 21-22

isolated ring systems :

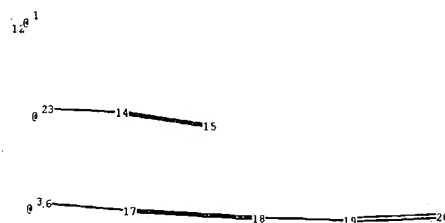
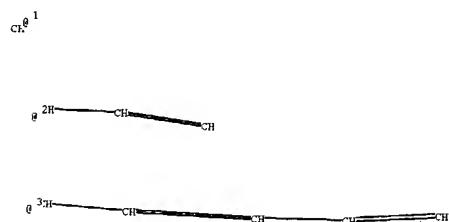
containing 1 : 20 :

G2:[*1],[*2],[*3]

G3:O,S,N,Se

Match level :

1:Atom 2:Atom 3:Atom 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:CLASS
11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 20:Atom 21:Atom 22:Atom



chain nodes :

5 6 7 12 13 14 15 16 17 18 19 20

ring nodes :

1 2 3 8 9 10

chain bonds :

5-7 5-6 7-10 13-14 14-15 16-17 17-18 18-19 19-20

ring bonds :

1-2 1-3 2-3 8-9 8-10 9-10

exact/norm bonds :

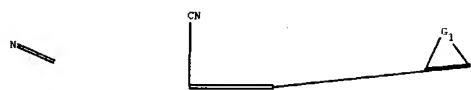
1-2 1-3 2-3 5-7 5-6 7-10 8-9 8-10 9-10 13-14 14-15 16-17 17-18 18-19 19-20

G1:O,S,N,Se

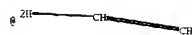
G2:[*1],[*2],[*3]

Match level :

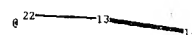
1:Atom 2:Atom 3:Atom 5:CLASS 6:CLASS 7:CLASS 8:Atom 9:Atom 10:Atom 12:CLASS
13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS



Cl⁰ 1



11⁰ 1



chain nodes :

4 5 6 11 12 13 14 15 16 17 18 19

ring nodes :

1 2 7 8 9

chain bonds :

4-6 4-5 6-9 12-13 13-14 15-16 16-17 17-18 18-19

ring bonds :

1-2 7-8 7-9 8-9

exact/norm bonds :

1-2 4-6 4-5 6-9 7-8 7-9 8-9 12-13 13-14 15-16 16-17 17-18 18-19

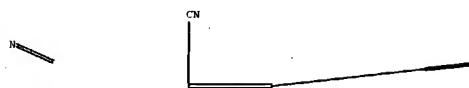
G1:O,S,N,Se

G2:[*1],[*2],[*3]

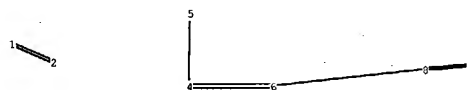
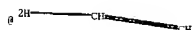
Match level :

1:Atom 2:Atom 4:CLASS 5:CLASS 6:CLASS 7:Atom 8:Atom 9:Atom 11:CLASS 12:CLASS
13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS

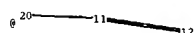
C:\stnweb\queries\5.str



Cl¹



9¹



chain nodes :

4 5 6 9 10 11 12 13 14 15 16 17

ring nodes :

1 2 7 8

chain bonds :

4-6 4-5 6-8 10-11 11-12 13-14 14-15 15-16 16-17

ring bonds :

1-2 7-8

exact/norm bonds :

1-2 7-8

exact bonds :

4-6 4-5 6-8 10-11 11-12 13-14 14-15 15-16 16-17

G1:O,S,N,Se

G2:[*1],[*2],[*3]

Match level :

1:Atom 2:Atom 4:CLASS 5:CLASS 6:CLASS 7:Atom 8:Atom 9:CLASS 10:CLASS 11:CLASS
12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS

* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 JAN 27 Source of Registration (SR) information in REGISTRY updated and searchable
NEWS 4 JAN 27 A new search aid, the Company Name Thesaurus, available in CA/CAPLUS
NEWS 5 FEB 05 German (DE) application and patent publication number format changes
NEWS 6 MAR 03 MEDLINE and LMEADLINE reloaded
NEWS 7 MAR 03 MEDLINE file segment of TOXCENTER reloaded
NEWS 8 MAR 03 FRANCEPAT now available on STN
NEWS 9 MAR 29 Pharmaceutical Substances (PS) now available on STN
NEWS 10 MAR 29 WPIFV now available on STN
NEWS 11 MAR 29 New monthly current-awareness alert (SDI) frequency in RAPRA
NEWS 12 APR 26 PROMT: New display field available
NEWS 13 APR 26 IFIPAT/IFIUDB/IFICDB: New super search and display field available
NEWS 14 APR 26 LITAlert now available on STN
NEWS 15 APR 27 NLDB: New search and display fields available
NEWS 16 May 10 PROUSDDR now available on STN
NEWS 17 May 19 PROUSDDR: One FREE connect hour, per account, in both May and June 2004
NEWS 18 May 12 EXTEND option available in structure searching
NEWS 19 May 12 Polymer links for the POLYLINK command completed in REGISTRY
NEWS 20 May 17 FRFULL now available on STN
NEWS 21 May 27 STN User Update to be held June 7 and June 8 at the SLA 2004 Conference
NEWS 22 May 27 New UPM (Update Code Maximum) field for more efficient patent SDIs in CAPLUS
NEWS 23 May 27 CAPLUS super roles and document types searchable in REGISTRY
NEWS 24 May 27 Explore APOLLIT with free connect time in June 2004

NEWS EXPRESS MARCH 31 CURRENT WINDOWS VERSION IS V7.00A, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 26 APRIL 2004
NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS INTER General Internet Information
NEWS LOGIN Welcome Banner and News Items
NEWS PHONE Direct Dial and Telecommunication Network Access to STN
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 12:18:02 ON 10 JUN 2004

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 12:18:09 ON 10 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 9 JUN 2004 HIGHEST RN 691352-46-2
DICTIONARY FILE UPDATES: 9 JUN 2004 HIGHEST RN 691352-46-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>

L1 STRUCTURE UPLOADED

=> d l1

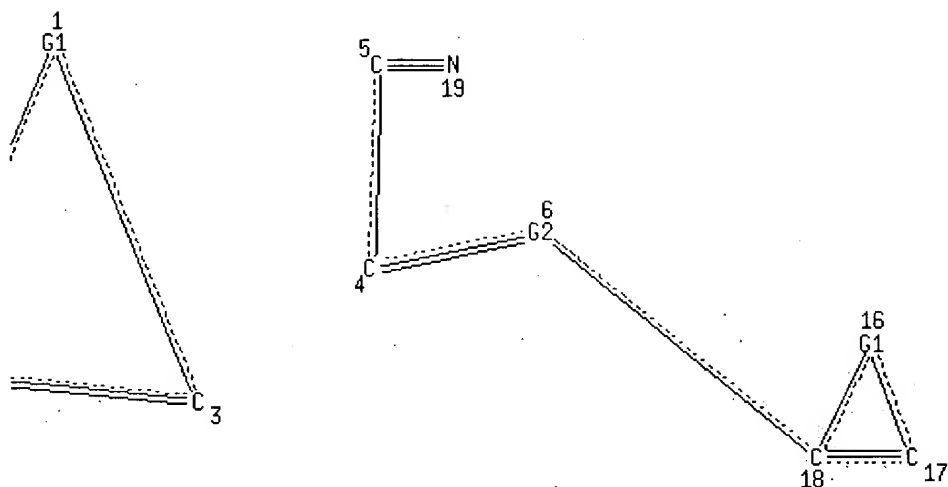
L1 HAS NO ANSWERS

L1 STR

0 20 S 21 N 22 Se 23Ak 24



Page 1-A



Page 1-B

7 C M1

8
M1 C-----
Page 2-A

M1-----10
C-----C M1
9

Page 2-B

M1 C-----
11
Page 3-A

M1-----13-----14-----15
12-----C-----C-----C
M1 M1 M1

Page 3-B

VAR G1=20/21/22/23/24

VAR G2=7-4 7-18/8-4 8-18/11-4 11-18

NODE ATTRIBUTES:

HCOUNT	IS	M1	AT	7
HCOUNT	IS	M1	AT	8
HCOUNT	IS	M1	AT	9
HCOUNT	IS	M1	AT	10
HCOUNT	IS	M1	AT	11
HCOUNT	IS	M1	AT	12
HCOUNT	IS	M1	AT	13
HCOUNT	IS	M1	AT	14
HCOUNT	IS	M1	AT	15
NSPEC	IS	R	AT	1
NSPEC	IS	R	AT	2
NSPEC	IS	R	AT	3
NSPEC	IS	C	AT	4
NSPEC	IS	C	AT	5
NSPEC	IS	C	AT	6
NSPEC	IS	C	AT	7
NSPEC	IS	C	AT	8


```

NSPEC  IS C      AT  9
NSPEC  IS C      AT 10
NSPEC  IS C      AT 11
NSPEC  IS C      AT 12
NSPEC  IS C      AT 13
NSPEC  IS C      AT 14
NSPEC  IS C      AT 15
NSPEC  IS R      AT 16
NSPEC  IS R      AT 17
NSPEC  IS R      AT 18
NSPEC  IS C      AT 19
DEFAULT MLEVEL IS ATOM
MLEVEL  IS CLASS AT  4  5  7  8  9 10 11 12 13 14 15 19
DEFAULT ECLEVEL IS LIMITED

```

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE

=> s 11

GENERIC GROUP NOT VALID HERE

Generic groups may not be used in these circumstances:

1. Any generic group node (e.g., Hy) in a ring.
2. An Ak node attached to another Ak node.

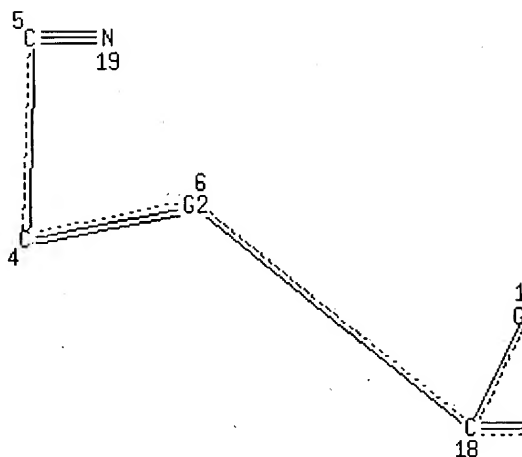
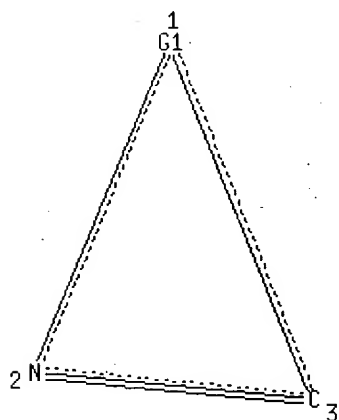
=>

L2 STRUCTURE UPLOADED

=> d 12

L2 HAS NO ANSWERS

L2 STR

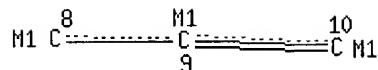


Page 1-A

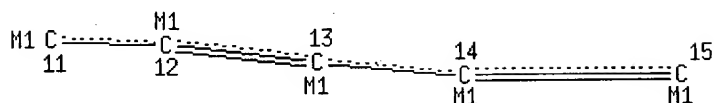


Page 1-B

7 C M1



Page 2-A



Page 3-A

VAR G2=7-4 7-18/8-4 8-18/11-4 11-18

NODE ATTRIBUTES:

HCOUNT	IS	M1	AT	7
HCOUNT	IS	M1	AT	8
HCOUNT	IS	M1	AT	9
HCOUNT	IS	M1	AT	10
HCOUNT	IS	M1	AT	11
HCOUNT	IS	M1	AT	12
HCOUNT	IS	M1	AT	13
HCOUNT	IS	M1	AT	14
HCOUNT	IS	M1	AT	15
NSPEC	IS	R	AT	1
NSPEC	IS	R	AT	2
NSPEC	IS	R	AT	3
NSPEC	IS	C	AT	4
NSPEC	IS	C	AT	5
NSPEC	IS	C	AT	6
NSPEC	IS	C	AT	7
NSPEC	IS	C	AT	8
NSPEC	IS	C	AT	9
NSPEC	IS	C	AT	10
NSPEC	IS	C	AT	11
NSPEC	IS	C	AT	12
NSPEC	IS	C	AT	13
NSPEC	IS	C	AT	14
NSPEC	IS	C	AT	15
NSPEC	IS	R	AT	16
NSPEC	IS	R	AT	17
NSPEC	IS	R	AT	18
NSPEC	IS	C	AT	19

DEFAULT MLEVEL IS ATOM

MLEVEL IS CLASS AT 4 5 7 8 9 10 11 12 13 14 15 19

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 19

STEREO ATTRIBUTES: NONE

=> s 12

SEARCH FAILED DUE TO A STRUCTURE QUERY ERROR

The structure query could not be searched. Please review and revise

your structure query, especially checking the variable definitions and attachments. In rare instances the failure may be due to a system problem. Please contact your local STN Help Desk if you need assistance.

=>

L3 STRUCTURE UPLOADED

=> 13

L3 IS NOT A RECOGNIZED COMMAND

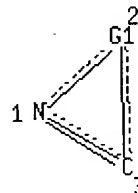
The previous command name entered was not recognized by the system. For a list of commands available to you in the current file, enter "HELP COMMANDS" at an arrow prompt (=>).

=> d 13

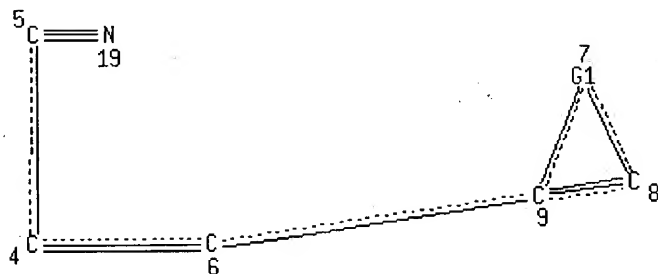
L3 HAS NO ANSWERS

L3 STR

0 20 S 21 N 22 Se 23



Page 1-A

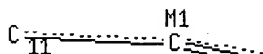


Page 1-B

10 C M1

M1

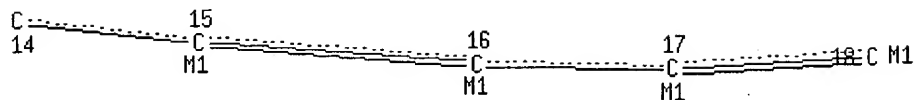
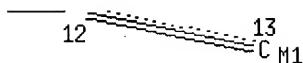
Page 2-A



Page 2-B

M1

Page 3-A



Page 3-B

VAR G1=20/21/22/23

NODE ATTRIBUTES:

HCOUNT	IS	M1	AT	10
HCOUNT	IS	M1	AT	11
HCOUNT	IS	M1	AT	12
HCOUNT	IS	M1	AT	13
HCOUNT	IS	M1	AT	14
HCOUNT	IS	M1	AT	15
HCOUNT	IS	M1	AT	16
HCOUNT	IS	M1	AT	17
HCOUNT	IS	M1	AT	18
NSPEC	IS	R	AT	1
NSPEC	IS	R	AT	2
NSPEC	IS	R	AT	3
NSPEC	IS	C	AT	4
NSPEC	IS	C	AT	5
NSPEC	IS	C	AT	6
NSPEC	IS	R	AT	7
NSPEC	IS	R	AT	8
NSPEC	IS	R	AT	9
NSPEC	IS	C	AT	10
NSPEC	IS	C	AT	11
NSPEC	IS	C	AT	12
NSPEC	IS	C	AT	13
NSPEC	IS	C	AT	14
NSPEC	IS	C	AT	15
NSPEC	IS	C	AT	16
NSPEC	IS	C	AT	17
NSPEC	IS	C	AT	18
NSPEC	IS	C	AT	19

DEFAULT MLEVEL IS ATOM

MLEVEL IS CLASS AT 4 5 6 10 11 12 13 14 15 16 17 18 19

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE

=> s 13

SAMPLE SEARCH INITIATED 12:30:31 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 1 TO ITERATE

100.0% PROCESSED 1 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**
 PROJECTED ITERATIONS: 1 TO 80
 PROJECTED ANSWERS: 0 TO 0

L4 0 SEA SSS SAM L3

=> s l3 full

THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 155.00 U.S. DOLLARS
 DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
 FULL SEARCH INITIATED 12:30:35 FILE 'REGISTRY'
 FULL SCREEN SEARCH COMPLETED - 53 TO ITERATE

100.0% PROCESSED 53 ITERATIONS 0 ANSWERS
 SEARCH TIME: 00.00.01

L5 0 SEA SSS FUL L3

=>

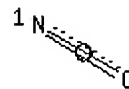
L6 STRUCTURE UPLOADED

=> d l6

L6 HAS NO ANSWERS

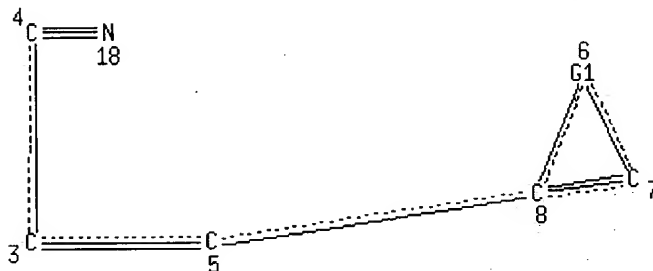
L6 STR

0 19 S 20 N 21 Se 22



Page 1-A

2

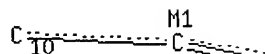


Page 1-B

9 C M1

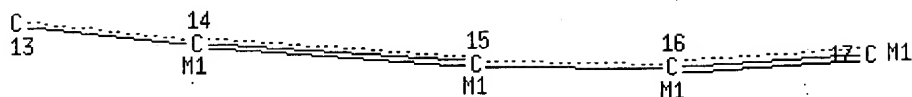
M1

Page 2-A



Page 2-B

M1
Page 3-A



Page 3-B

VAR G1=19/20/21/22

NODE ATTRIBUTES:

HCOUNT	IS	M1	AT	9
HCOUNT	IS	M1	AT	10
HCOUNT	IS	M1	AT	11
HCOUNT	IS	M1	AT	12
HCOUNT	IS	M1	AT	13
HCOUNT	IS	M1	AT	14
HCOUNT	IS	M1	AT	15
HCOUNT	IS	M1	AT	16
HCOUNT	IS	M1	AT	17
NSPEC	IS	R	AT	1
NSPEC	IS	R	AT	2
NSPEC	IS	C	AT	3
NSPEC	IS	C	AT	4
NSPEC	IS	C	AT	5
NSPEC	IS	R	AT	6
NSPEC	IS	R	AT	7
NSPEC	IS	R	AT	8
NSPEC	IS	C	AT	9
NSPEC	IS	C	AT	10
NSPEC	IS	C	AT	11
NSPEC	IS	C	AT	12
NSPEC	IS	C	AT	13
NSPEC	IS	C	AT	14
NSPEC	IS	C	AT	15
NSPEC	IS	C	AT	16
NSPEC	IS	C	AT	17
NSPEC	IS	C	AT	18

DEFAULT MLEVEL IS ATOM

MLEVEL IS CLASS AT 3 4 5 9 10 11 12 13 14 15 16 17 18

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

=> s 16

SAMPLE SEARCH INITIATED 12:34:32 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 31 TO ITERATE

100.0% PROCESSED 31 ITERATIONS
 SEARCH TIME: 00.00.01

0 ANSWERS

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**
 PROJECTED ITERATIONS: 286 TO 954
 PROJECTED ANSWERS: 0 TO 0

L7 0 SEA SSS SAM L6

=> s 16 full

THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 155.00 U.S. DOLLARS

DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y

FULL SEARCH INITIATED 12:34:36 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 813 TO ITERATE

100.0% PROCESSED 813 ITERATIONS
 SEARCH TIME: 00.00.01

0 ANSWERS

L8 0 SEA SSS FUL L6

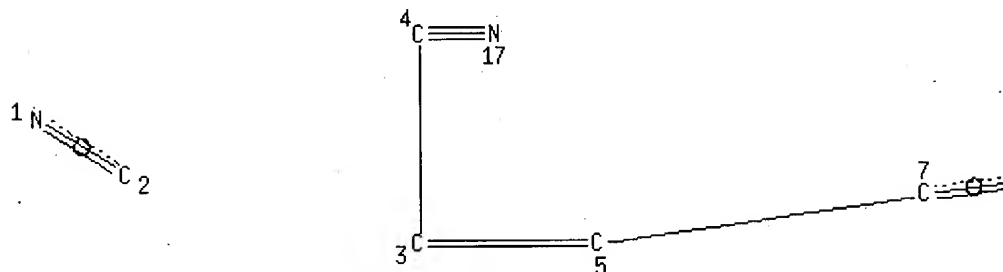
=>

L9 STRUCTURE UPLOADED

=> d 19

L9 HAS NO ANSWERS

L9 STR

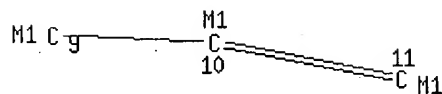


Page 1-A

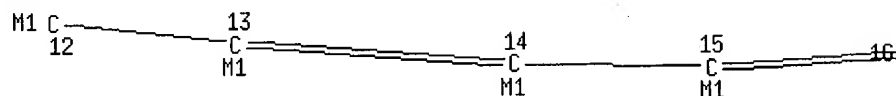
≡C 6

Page 1-B

8 C M1



Page 2-A



Page 3-A

C M1

Page 3-B

NODE ATTRIBUTES:

HCOUNT IS M1 AT 8
 HCOUNT IS M1 AT 9
 HCOUNT IS M1 AT 10
 HCOUNT IS M1 AT 11
 HCOUNT IS M1 AT 12
 HCOUNT IS M1 AT 13
 HCOUNT IS M1 AT 14
 HCOUNT IS M1 AT 15
 HCOUNT IS M1 AT 16
 NSPEC IS R AT 1
 NSPEC IS R AT 2
 NSPEC IS C AT 3
 NSPEC IS C AT 4
 NSPEC IS C AT 5
 NSPEC IS R AT 6
 NSPEC IS R AT 7
 NSPEC IS C AT 8
 NSPEC IS C AT 9
 NSPEC IS C AT 10
 NSPEC IS C AT 11
 NSPEC IS C AT 12
 NSPEC IS C AT 13
 NSPEC IS C AT 14
 NSPEC IS C AT 15
 NSPEC IS C AT 16
 NSPEC IS C AT 17
 DEFAULT MLEVEL IS ATOM
 MLEVEL IS CLASS AT 3 4 5 8 9 10 11 12 13 14 15 16 17
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

=> s 19

SAMPLE SEARCH INITIATED 12:36:23 FILE 'REGISTRY'
 SAMPLE SCREEN SEARCH COMPLETED - 31 TO ITERATE

100.0% PROCESSED 31 ITERATIONS 0 ANSWERS
 SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**
 PROJECTED ITERATIONS: 286 TO 954
 PROJECTED ANSWERS: 0 TO 0

L10 0 SEA SSS SAM L9

=> s 19 full

THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 155.00 U.S. DOLLARS
 DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
 FULL SEARCH INITIATED 12:36:26 FILE 'REGISTRY'
 FULL SCREEN SEARCH COMPLETED - 752 TO ITERATE

100.0% PROCESSED 752 ITERATIONS 4 ANSWERS
 SEARCH TIME: 00.00.01

L11 4 SEA SSS FUL L9

=> file hcaplu

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

478.02

478.23

FILE 'HCAPLUS' ENTERED AT 12:36:29 ON 10 JUN 2004

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FILE COVERS 1907 - 10 Jun 2004 VOL 140 ISS 24

FILE LAST UPDATED: 9 Jun 2004 (20040609/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> file hcaplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

2.36

480.59

FILE 'HCAPLUS' ENTERED AT 12:36:33 ON 10 JUN 2004

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FILE COVERS 1907 - 10 Jun 2004 VOL 140 ISS 24

FILE LAST UPDATED: 9 Jun 2004 (20040609/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l11

MISSING OPERATOR S L12

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

35 THEODOROPULOS, S?/AU

L13 0 L12 AND THEODOROPULOS, S?/AU

=> d l12, ibib abs fhitrstr, 1-2

L12 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text
Citing References

ACCESSION NUMBER: 1999:624487 HCAPLUS
DOCUMENT NUMBER: 131:350892
TITLE: Theoretical investigation on the first

AUTHOR(S): Zhu, P.; Wang, P.; Ye, C.
CORPORATE SOURCE: Institute of Chemistry, Organic Solids Laboratory,
Center for Molecular Science, Chinese Academy of
Sciences, Beijing, Peop. Rep. China

SOURCE: Chemical Physics Letters (1999), 311(3,4), 306-314
CODEN: CHPLBC; ISSN: 0009-2614

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Novel push-pull polyenes contg. non-arom. cyclic olefins, such as cyclopentadiene, cyclopropene and cycloheptatriene, have been investigated for application of nonlinear optical (NLO) materials. Their dot products $\mu\beta_0$ of first hyperpolarizability (β_0) and dipole moment (μ) are calcd. by employing AM1/Finite Field and ZINDO/S approaches. Among them, the largest value is as high as 4.1×10^{-45} esu. The origin of such high $\mu\beta_0$ was analyzed based on the two-level model. Non-arom. groups can transform to a stable arom. anion/cation through gaining/losing an electron in their charge transfer states.

IT 250361-43-4

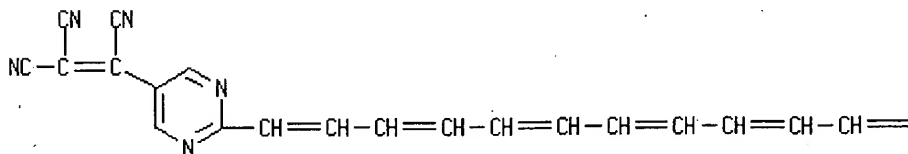
RL: PRP (Properties)

(theor. investigation on the first hyperpolarizability of push-pull polyenes contg. non-arom. cyclic olefins that become arom. in the charge-transfer state)

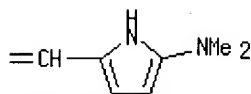
RN 250361-43-4 HCAPLUS

CN Ethenetricarbonitrile, [2-[12-[5-(dimethylamino)-1H-pyrrol-2-yl]-1,3,5,7,9,11-dodecahexaenyl]-5-pyrimidinyl]-(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Citing References
-----------	-------------------

ACCESSION NUMBER: 1999:60694 HCAPLUS
 DOCUMENT NUMBER: 130:237250
 TITLE: Theoretical investigation and molecular design of pyrazine derivatives with large hyperpolarizabilities (β)
 AUTHOR(S): Wang, Peng; Zhu, Peiwan; Wang, Chuanguang; Ye, Cheng
 CORPORATE SOURCE: Organic Solids Lab., Inst. of Chem., Chinese Acad. of Sci., Beijing, 100080, Peop. Rep. China
 SOURCE: THEOCHEM (1999), 459(1-3), 155-162
 CODEN: THEODJ; ISSN: 0166-1280
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

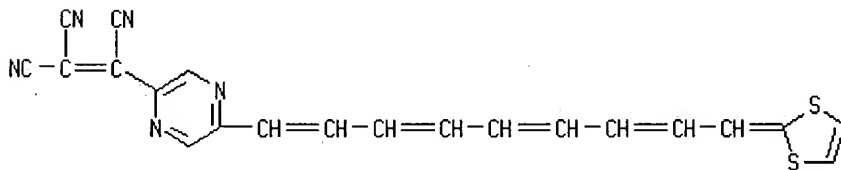
AB The mol. first hyperpolarizabilities of some donor/acceptor substituted pyrazines were investigated by employing the finite field (FF) method at the AM1 level. Compared with their benzene analogs, they show better planarity and similar β_0 values. Following the donor/acceptor strength trade-off, elongation of conjugation length and the principle of bond length alternation, a novel type of chromophore contg. ethylene-pyrazine bridge and 1,3-dithiol-2-ylidenemethyl as donor and tricyanovinyl as acceptor is designed and studied. The largest calcd. $\mu\beta_0$ value can reach the level of 10-45 esu.

IT 221295-21-2

RL: PRP (Properties)
 (AM1/finite field study and mol. design of pyrazine derivs. with large hyperpolarizabilities (β))

RN 221295-21-2 HCAPLUS

CN Ethenetricarbonitrile, [5-[9-(1,3-dithiol-2-ylidene)-1,3,5,7-nonatetraenyl]pyrazinyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> file hcaplus
 COST IN U.S. DOLLARS
 FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
26.03	506.62

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.39	-1.39

FILE 'HCAPLUS' ENTERED AT 12:40:36 ON 10 JUN 2004
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FILE COVERS 1907 - 10 Jun 2004 VOL 140 ISS 24
 FILE LAST UPDATED: 9 Jun 2004 (20040609/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d his

(FILE 'HOME' ENTERED AT 12:18:02 ON 10 JUN 2004)

FILE 'REGISTRY' ENTERED AT 12:18:09 ON 10 JUN 2004

L1	STRUCTURE UPLOADED
L2	STRUCTURE UPLOADED
L3	STRUCTURE UPLOADED
L4	0 S L3
L5	0 S L3 FULL
L6	STRUCTURE UPLOADED
L7	0 S L6
L8	0 S L6 FULL
L9	STRUCTURE UPLOADED
L10	0 S L9
L11	4 S L9 FULL

FILE 'HCAPLUS' ENTERED AT 12:36:29 ON 10 JUN 2004

FILE 'HCAPLUS' ENTERED AT 12:36:33 ON 10 JUN 2004

L12	2 S L11
L13	0 S L12 AND THEODOROPULOS, S?/AU

FILE 'HCAPLUS' ENTERED AT 12:40:36 ON 10 JUN 2004

=> s l11

L14	2 L11
-----	-------

=> file caold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.36	508.98

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-1.39

FILE 'CAOLD' ENTERED AT 12:40:44 ON 10 JUN 2004
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FILE COVERS 1907-1966
 FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

This file supports REGISTRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> d his

(FILE 'HOME' ENTERED AT 12:18:02 ON 10 JUN 2004)

FILE 'REGISTRY' ENTERED AT 12:18:09 ON 10 JUN 2004

```

L1          STRUCTURE UPLOADED
L2          STRUCTURE UPLOADED
L3          STRUCTURE UPLOADED
L4          0 S L3
L5          0 S L3 FULL
L6          STRUCTURE UPLOADED
L7          0 S L6
L8          0 S L6 FULL
L9          STRUCTURE UPLOADED
L10         0 S L9
L11         4 S L9 FULL
  
```

FILE 'HCAPLUS' ENTERED AT 12:36:29 ON 10 JUN 2004

FILE 'HCAPLUS' ENTERED AT 12:36:33 ON 10 JUN 2004

```

L12         2 S L11
L13         0 S L12 AND THEODOROPULOS, S?/AU
  
```

FILE 'HCAPLUS' ENTERED AT 12:40:36 ON 10 JUN 2004

```

L14         2 S L11
  
```

FILE 'CAOLD' ENTERED AT 12:40:44 ON 10 JUN 2004

=> s l11

```

L15         0 L11
  
```

=>

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NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 JAN 27 Source of Registration (SR) information in REGISTRY updated and searchable
NEWS 4 JAN 27 A new search aid, the Company Name Thesaurus, available in CA/CAPLUS
NEWS 5 FEB 05 German (DE) application and patent publication number format changes
NEWS 6 MAR 03 MEDLINE and LMEEDLINE reloaded
NEWS 7 MAR 03 MEDLINE file segment of TOXCENTER reloaded
NEWS 8 MAR 03 FRANCEPAT now available on STN
NEWS 9 MAR 29 Pharmaceutical Substances (PS) now available on STN
NEWS 10 MAR 29 WPIFV now available on STN
NEWS 11 MAR 29 New monthly current-awareness alert (SDI) frequency in RAPRA
NEWS 12 APR 26 PROMT: New display field available
NEWS 13 APR 26 IFIPAT/IFIUDB/IFICDB: New super search and display field available
NEWS 14 APR 26 LITALERT now available on STN
NEWS 15 APR 27 NLDB: New search and display fields available
NEWS 16 May 10 PROUSDDR now available on STN
NEWS 17 May 19 PROUSDDR: One FREE connect hour, per account, in both May and June 2004
NEWS 18 May 12 EXTEND option available in structure searching
NEWS 19 May 12 Polymer links for the POLYLINK command completed in REGISTRY
NEWS 20 May 17 FRFULL now available on STN
NEWS 21 May 27 STN User Update to be held June 7 and June 8 at the SLA 2004 Conference
NEWS 22 May 27 New UPM (Update Code Maximum) field for more efficient patent SDIs in CAPLUS
NEWS 23 May 27 CAPLUS super roles and document types searchable in REGISTRY
NEWS 24 May 27 Explore APOLLIT with free connect time in June 2004

NEWS EXPRESS MARCH 31 CURRENT WINDOWS VERSION IS V7.00A, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 26 APRIL 2004
NEWS HOURS STN Operating Hours Plus Help Desk Availability
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NEWS PHONE Direct Dial and Telecommunication Network Access to STN
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FILE 'HOME' ENTERED AT 13:02:30 ON 10 JUN 2004

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 13:02:47 ON 10 JUN 2004
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Property values tagged with IC are from the ZIC/VINITI data file
 provided by InfoChem.

STRUCTURE FILE UPDATES: 9 JUN 2004 HIGHEST RN 691352-46-2
 DICTIONARY FILE UPDATES: 9 JUN 2004 HIGHEST RN 691352-46-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when
 conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
 information enter HELP PROP at an arrow prompt in the file or refer
 to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file hcaplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	0.63

FILE 'HCAPLUS' ENTERED AT 13:03:02 ON 10 JUN 2004
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FILE COVERS 1907 - 10 Jun 2004 VOL 140 ISS 24
 FILE LAST UPDATED: 9 Jun 2004 (20040609/ED)

This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> s fluorescent () dye

126729 FLUORESCENT
 40 FLUORESCENTS
 126741 FLUORESCENT
 (FLUORESCENT OR FLUORESCENTS)
 236192 DYE
 198011 DYES
 310373 DYE

(DYE OR DYES)
L1 10816 FLUORESCENT (W) DYE

=> s 11 and cell?
2855566 CELL?

L2 4138 L1 AND CELL?

=> s 12 and excess?
432938 EXCESS?

L3 51 L2 AND EXCESS?

=> s 13 and measure?
2410107 MEASURE?

L4 14 L3 AND MEASURE?

=> s 14 not methine?
6419 METHINE?

L5 14 L4 NOT METHINE?

=> s1 4 and not ?methine?

SL IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s 14 and not ?methine?

MISSING TERM 'AND NOT'

The search profile that was entered contains a logical
operator followed immediately by another operator.

=> s 14 not ?methine?

19514 ?METHINE?

L6 14 L4 NOT ?METHINE?

=> d 16, ibib abs fhitr, 1-14

L6 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Citing
Text References

ACCESSION NUMBER: 2004:116649 HCAPLUS

DOCUMENT NUMBER: 140:315342

TITLE: Role of putative membrane receptors in the effect of
androgens on human vascular cell growth

AUTHOR(S): Somjen, D.; Kohen, F.; Gayer, B.; Kulik, T.; Knoll,
E.; Stern, N.

CORPORATE SOURCE: Institute of Endocrinology, Metabolism and
Hypertension, Tel Aviv Sourasky Medical Center and
Sackler Faculty of Medicine, Tel Aviv University, Tel
Aviv-Jaffa, Israel

SOURCE: Journal of Endocrinology (2004), 180(1), 97-106
CODEN: JOENAK; ISSN: 0022-0795

PUBLISHER: Society for Endocrinology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The authors have reported previously that dihydrotestosterone (DHT)
induces a biphasic effect on DNA synthesis in human vascular smooth muscle
cells (VSMC), i.e., stimulation at low concns. and inhibition at high
concns. In contrast, DHT dose-dependently stimulated [3H]thymidine
incorporation in a human endothelial cell line (ECV304). Addnl., DHT
increased the specific activity of creatine kinase (CK) in both vascular

cell types. In the present study, the authors have detd. whether some of these effects are exerted via membrane-binding sites. The authors **measured** changes in DNA synthesis and CK after treatment with DHT and the membrane-impermeant testosterone-3-carboxymethyl oxime conjugated to bovine serum albumin (BSA) (T-BSA). High concns. of either DHT or T-BSA inhibited VSMC proliferation (by 52+22% and 51+25% resp.). DHT as well as T-BSA increased DNA synthesis in ECV304 **cells** dose-dependently. In contrast, T-BSA did not affect CK in either **cell** type. In both **cell** types, DHT as well as T-BSA increased mitogen-activated protein kinase (MAPK) kinase activity as **measured** by total phosphorylated MAPK. Further, the inhibitory effect of either the free or protein-bound androgens on DNA synthesis was blocked by UO126, an inhibitor of MAPK kinase activity. T-BSA conjugate labeled with Europium showed binding to whole VSMC, which could be displaced by **excess** T-BSA, but not by estradiol-BSA or the free hormones. Finally, using T-BSA linked to the **fluorescent dye** Cy3.5, the authors directly demonstrated the presence of membrane-binding sites for androgen in VSMC. Hence, the inhibitory effects of testosterone on DNA synthesis in VSMC are apparently exerted by membrane-binding sites for androgen, do not require intracellular entry of the hormone and its binding to the classical nuclear receptors and are linked to MAPK activation.

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Citing References
-----------	-------------------

ACCESSION NUMBER: 2003:907440 HCAPLUS
DOCUMENT NUMBER: 139:392108
TITLE: Detection method and detection chip for biochemical test sample
INVENTOR(S): Yamaguchi, Akira; Yabubayashi, Tadaaki; Misawa, Hiroaki; Tanaka, Masazumi
PATENT ASSIGNEE(S): Sumitomo Precision Products Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003329676	A2	20031119	JP 2001-401638	20011228
PRIORITY APPLN. INFO.:			JP 2001-401638	20011228

AB A method is provided for detecting a biochem. test sample (i.e., double helix DNA modified with fluorescence) with a simplified detection process, an excellent reproducibility and an improved detection accuracy without requiring a **measurer** an **excessive** technique. Also provided is a detection chip for a fluorometry used in this method. Upon arranging probe DNA on a gold thin film formed on the surface of a glass baseplate, each probe is constituted in such a way that a loop structure is formed and an open terminal side is located at the side of the thin film. In case there is an objective gene, a hybridization takes place and the loop structure is resolved. The fluorescence is generated only from the hybridized probe DNA when the probe DNA is modified with a fluorescent labeling beforehand, or only objective DNA is modified with a fluorescent labeling when the modification takes place after hybridization. As a result, the detection accuracy is improved with a reduced noise.

L6 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Citing References
--------------	----------------------

ACCESSION NUMBER: 2003:692810 HCAPLUS
 DOCUMENT NUMBER: 139:195189
 TITLE: Intracellular calcium homeostasis in sensory neurons under hypoxic effects
 AUTHOR(S): Kostyuk, P. G.; Stanika, P. I.; Koval, L. M.; Luk'yanets, O. O.
 CORPORATE SOURCE: Inst. Fiziol. im. O. O. Bogomol'tsya, NAN Ukr., Kiev, Ukraine
 SOURCE: Fiziologichnii Zhurnal (Kiev, Ukraine) (2003), 49(3), 3-10
 CODEN: FIZHFQ
 PUBLISHER: Institut Fiziologii im. O. O. Bogomol'tsya NAN Ukrainy
 DOCUMENT TYPE: Journal
 LANGUAGE: Ukrainian

AB Hypoxia is the main reason leading to neuronal death during different forms of brain diseases. The main phenomenon obsd. at hypoxia is **excessive** growth of intraneuronal Ca^{2+} concn. leading to irreversible cell damage. Despite extensive studies of this process, the intracellular mechanisms responsible for disturbance in Ca^{2+} are still unclear. The aim of present investigations was to explore these mechanisms. Ca^{2+} was **measured** by spatial screening of isolated dorsal root ganglion (sensory) neurons loaded with **fluorescent dye** Fura-2AM after exposing them to hypoxic soln. Hypoxia resulted in a reversible elevation of Ca^{2+} , which could be partly prevented by several pharmacol. agents. We concluded that in sensory neurons hypoxia-induced elevation of cytosolic Ca^{2+} is induced by primary changes in ionic channels and secondary in function of mitochondria.

L6 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Citing References
--------------	----------------------

ACCESSION NUMBER: 2003:372520 HCAPLUS
 DOCUMENT NUMBER: 139:334199
 TITLE: Calcium-activated NO production plays a role in neuronal death induced by β -bungarotoxin in primary cultures of cerebellar granular neurons
 AUTHOR(S): Tseng, Wen-Pei; Lin-Shiau, Shoei-Yn
 CORPORATE SOURCE: College of Medicine, Institute of Pharmacology, National Taiwan University, Taipei, 10043, Taiwan
 SOURCE: Naunyn-Schmiedeberg's Archives of Pharmacology (2003), 367(5), 451-461
 CODEN: NSAPCC; ISSN: 0028-1298
 PUBLISHER: Springer-Verlag
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The aim of this study was to elucidate the mechanism underlying the neurotoxic effect of β -bungarotoxin (β -BuTX) on cultured cerebellar granular neurons (CGN). β -BuTX had a potent time- and concn.-dependent neurotoxic effect on mature CGN. β -BuTX appeared to destroy initially the neurites and then caused neuronal death by both apoptotic and necrotic processes. Inspection using Nomarski optics showed that these neurons displayed morphol. features of necrotic **cells**, including **cell** swelling, loss of membrane integrity and eventual dissoln. of the **cell**. Staining with the **fluorescent dye** Hoechst 33258 showed that β -BuTX-treated neuron bodies stained more densely with smaller apoptotic bodies. Using microspectrofluorimetry and fura-2

to **measure** cytosolic $[Ca^{2+}]$ ($[Ca^{2+}]_i$), β -BuTX markedly increased $[Ca^{2+}]_i$. BAPTA-AM, EGTA, MK 801 and diltiazem not only attenuated the β -BuTX-mediated rise in $[Ca^{2+}]_i$ but also attenuated β -BuTX-mediated neurotoxicity. In addn., these Ca^{2+} inhibitors prevented the β -BuTX-induced generation of reactive nitrogen species. The NO synthase inhibitor NMD (NG-methyl-L-arginine) also exhibited neuroprotection. This is the first report showing that β -BuTX-induced CGN death is mediated, at least in part, by **excessive** generation of NO triggered by $[Ca^{2+}]_i$ overloading. Activation of NMDA receptors and L-type calcium channels is apparently involved in the increase in $[Ca^{2+}]_i$ induced by this neurotoxin. This potent neurotoxin will be a useful tool for studying neurotoxic processes and using this model system will allow the authors to find neuroprotective agents.

REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Citing References
--------------	----------------------

ACCESSION NUMBER: 2000:168180 HCAPLUS
DOCUMENT NUMBER: 132:331453
TITLE: The visualization of oxidant stress in tissues and isolated **cells**
AUTHOR(S): Frank, J.; Biesalski, H. K.; Dominici, S.; Pompella, A.
CORPORATE SOURCE: Institute of Biological Chemistry and Nutrition, University of Hohenheim, Stuttgart, Germany
SOURCE: Histology and Histopathology (2000), 15(1), 173-184
CODEN: HIHIES; ISSN: 0213-3911
PUBLISHER: Histology and Histopathology
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with many refs. Many studies have implicated the role of oxidative stress in a wide range of human diseases and have led to the rapid expansion of research in this area. With many exptl. approaches a direct detection of the prodn. of reactive oxygen species (ROS) and free radicals is not possible. Free radicals are very reactive, short-lived and react in a non-specific way, so that ongoing oxidative damage is generally analyzed by **measurement** of secondary products e.g. H_2O_2 , "oxidized" proteins, peroxidized lipids and their breakdown products, "oxidized" DNA or by fluorog. anal. in combination with **fluorescent dyes** e.g. dichlorofluorescein (DCFH). The histochem. visualization of selected mol. markers for oxidative phenomena can often provide valuable information concerning the distribution of oxidative processes in vivo. A no. of biochem. methods are available for the monitoring of almost all oxidative stress-related processes, although their applicability in vivo is limited. This review summarizes the biochem. methods currently available for histochem. detection and indirect visualization of an **excess** of free radicals and ROS. The cited methods are discussed and the results obtained from their application are critically evaluated.

REFERENCE COUNT: 82 THERE ARE 82 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Citing References
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ACCESSION NUMBER: 1999:710190 HCAPLUS
DOCUMENT NUMBER: 132:34850

TITLE: Rapid screening of solvents and carrier compounds for lactic acid recovery by emulsion liquid extraction and toxicity on *Lactobacillus casei* (ATCC 11443)

AUTHOR(S): Demirci, Ali; Pometto, Anthony L., III; Harkins, Kristi R.

CORPORATE SOURCE: Department of Food Science and Human Nutrition, Iowa State University, Ames, IA, 50011, USA

SOURCE: Bioseparation (1999), 7(6), 297-308
CODEN: BISPE4; ISSN: 0923-179X

PUBLISHER: Kluwer Academic Publishers

DOCUMENT TYPE: Journal

LANGUAGE: English

AB This paper describes a rapid method to identify the best solvent and carrier compd. combinations with the highest extn. capability and the lowest microbial toxicity characteristics for product recovery from microbial fermn. The extn. system has an aq. phase, and an emulsion phase, which was a blend of sodium carbonate and org. phase [91% (vol./vol.) org. solvent, 5% (vol./vol. or wt./v) carrier compd., and 4% (vol./vol.) surfactant Span 80]. Alamine 336, or tri-n-octylamine in n-heptane; Alamine 336, Alamine 304, or tri-Bu phosphate in hexane; and Alamine 304 or tri-Bu phosphate in iso-octane; Alamine 304 or Amberlite in xylene demonstrated high lactic acid extn. For detn. of bacterial toxicity of selected solvent and carrier compds., *Lactobacillus casei* subsp. *rhamnosus* (ATCC 11443) was grown in LAF medium contg. one of the selected org. solvent, carrier compd., and Span 80 in 250 mL flask at 37° and 125 rpm. Samples were collected regularly during 48 h incubation, and measured for changes in cell d. by absorbance at 620 nm, cell count using a fluorescent dye with flow cytometry, and lactic acid, and glucose concns. by HPLC. Hexadecane:tributyl phosphate, n-dodecane:tri-n-octylamine, and kerosene:tri-n-octylphosphine oxide demonstrated the least microbial toxicity among the tested blends with excess solvent media. Whereas, hexanes:Alamine 304 and xylenes:Alamine 304 were nontoxic in solvent satd. media.

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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Full Text	Citing References
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ACCESSION NUMBER: 1998:380737 HCAPLUS

DOCUMENT NUMBER: 129:117924

TITLE: Production and flow cytometric application of a monoclonal anti-glucocorticoid receptor antibody

AUTHOR(S): Berki, T.; Kumanovics, G.; Kumanovics, A.; Falus, A.; Ujhelyi, E.; Nemeth, P.

CORPORATE SOURCE: P.O.B. 99, Department of Immunology and Biotechnology, University Medical School of Pecs, Pecs, H-7643, Hung.

SOURCE: Journal of Immunological Methods (1998), 214(1-2), 19-27
CODEN: JIMMBG; ISSN: 0022-1759

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Detection and monitoring the expression and level of intracellular glucocorticoid receptor (GCR) is necessary in many clin. and exptl. situations. Binding of radioactive steroids (3H dexamethasone) to the cytosolic fractions of cells has been recently used. However, it is an expensive, time-consuming technique difficult to use in routine diagnostics. In this article the authors describe a novel, simple method for GCR detection, using an FITC-conjugated anti-GCR monoclonal antibody

(mAb) for flow cytometric **measurements** in permeabilized **cells**. The monoclonal antibody was raised against a conserved sequence (150-176 amino acids) of the regulatory part of the receptor. Synthetic peptide (called APTEK-26) fragment of the receptor conjugated to different carriers (TG, BSA) was used for immunization and screening of the hybridomas. The a-GCR 8E9, 3C8 and 5E4 clones (IgG1) were further characterized by immunoserol. for their reactivity against overlapping synthetic peptide fragments of the receptor and by Western blot technique on cytosolic fraction of HEP G2 **cells** (contg. the GCR). Furthermore the mAbs could be used for the FACS based detection of GCR, despite its low no. of antigen structure within the **cells**. Solving the problem of nonspecific binding of the secondary antibodies the authors used their high affinity IgG1 a-GCR mAbs directly labeled with the **fluorescent dye** FITC. The fluorescent labeling of the GCRs in HEP G2 **cell** line and human peripheral blood mononuclear **cells** (PBMC) were demonstrated by flow cytometric anal. after fixation with 4% paraformaldehyde and permeabilization with saponin. Competition with molar **excess** of unlabeled antibodies and with the GCR peptide fragment confirmed the specific binding of the 8E9 and 5E4 mAbs to the GCRs. Monitoring the GCR level by flow cytometry would be useful in clin. diagnostics, e.g., in steroid-treated patients and in steroid-resistant states.

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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Full Text	Citing References
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ACCESSION NUMBER: 1997:363975 HCAPLUS
DOCUMENT NUMBER: 127:78504
TITLE: Ion channel activity during the action potential in Chara: new insights with new techniques
AUTHOR(S): Thiel, Gerhard; Homann, Ulrike; Plieth, Christoph
CORPORATE SOURCE: Pflanzenphysiologisches Institut der Universitat, Gottingen, Germany
SOURCE: Journal of Experimental Botany (1997), 48(Spec. Issue), 609-622
CODEN: JEBOA6; ISSN: 0022-0957
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review, with about 75 refs. The dynamics of macroscopic currents underlying the elec. triggered action potential (AP) in the giant alga Chara corallina were directly recorded with an action potential clamp method. In this technique an AP is recorded and repetitively replayed as the command voltage to the same **cell** under voltage control. Upon adding the channel blockers niflumic acid and/or Ba²⁺ to the bath, the excitation current, i.e. the current crossing the membrane during an AP, can be dissected into a transient, fast-appearing Cl⁻ inward current and a transient delayed K⁺ outward current. The delayed onset of the K⁺ outward current demands the postulation of an addnl. outward current to balance the **excess** Cl⁻ inward current at the onset of the AP. The capacitive current that alters the charge on the membrane during excitation is several orders of magnitude to small to be relevant for charge balance. **Measurements** of single channel activity in the plasma membrane of C. corallina by the patch clamp method shows two types of Cl⁻ channel (15 and 38 pS with 100 mM Cl⁻ in the pipet) and one type of K⁺ channel (about 40 pS with 100 mM K⁺ in the pipet) which become transiently active during an AP. Typically, variable nos. of Cl⁻ channels activate in a random fashion for short periods of time when favored by pos. voltages in combination with high concns. of extracellular Ca²⁺ (Cao²⁺) or during an AP of the

whole cell. The peak values of these Cl⁻ channel currents measured in a patch are such that they can account quant. for the peak of the whole cell Cl⁻ excitation current studied under comparable ionic conditions. Furthermore, the short duration of channel activity, as well as the fast rising and somewhat slower trailing kinetics is similar in duration and dynamics to AP-assocd. changes in membrane permeability of the whole Chara cell to Cl⁻ (PCL⁻). Taken together, the data stress that the characteristic, transient activation of random nos. of Cl⁻ channels seen in membrane patches is the elementary unit of the Cl⁻ excitation current. However, due to the random nature of this transient activity, gating of Cl⁻ channels can not be explained on the basis of previous models for excitation: gating can neither be due to intrinsic voltage sensitivity of the Cl⁻ channels, nor to a voltage-dependent influx of Ca²⁺ and subsequent activation of Ca²⁺-sensitive Cl⁻ channels. To account for the short life-time and for the randomness of Cl⁻ channel activity, the putative gating factors Ca²⁺ and voltage must be uncoupled in time. This could be explained by a random release of Ca²⁺ from stores, the latter being filled in a voltage-sensitive manner via non-specific cation channels from the outside. A 4 pS non-selective cation channel in the plasma membrane may serve this purpose. The 40 pS K⁺ channel, which becomes transiently active in *C. corallina* during a cell AP, is an outward rectifier. At neg. resting voltages the channel has a low open probability (< 1%). At voltages reached during an AP the open probability rises significantly reaching half-maximal open probability at -25 mV. The elevated activity of the 40 pS channel assocd. with membrane excitation relaxes at the end of an AP with a time const. of about 2.5 s. A comparable time const. of 2 s can be obtained for the decay of the transiently elevated permeability of the membrane to K⁺ (PK⁺), stressing that the kinetic properties of the 40 pS K⁺ channel are responsible for the course of whole cell PK⁺ changes. Voltage sensitivity of the K⁺ channels suggests that they are activated during an AP by the drop in membrane voltage to aid repolarization. However, the rise and decay of PK⁺ during an AP also shares similarity with the time-course of transient changes in cytoplasmic concn. of free Ca²⁺, [Ca²⁺]_{cyt}, the latter being measured in parallel expts. with the Ca²⁺-sensitive fluorescent dye, Fura-2, in excited *C. corallina* cells. This similarity could suggest that gating of the 40 pS K⁺ channel is also sensitive to [Ca²⁺]_{cyt} and that the latter sensitivity is rate-limiting for activity during an AP.

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Full Text	Citing References
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ACCESSION NUMBER: 1996:243401 HCAPLUS
DOCUMENT NUMBER: 124:284581
TITLE: Light-dependent proton transport into mesophyll vacuoles of leaves of C3 plants as revealed by pH-indicating fluorescent dyes: a reappraisal
AUTHOR(S): Yin, Zu-Hua; Hueve, Katja; Heber, Ulrich
CORPORATE SOURCE: Julius-von-Sachs-Inst. Biowissenschaften, Univ. Wuerzburg, Wuerzburg, D-97082, Germany
SOURCE: Planta (1996), 199(1), 9-17
CODEN: PLANAB; ISSN: 0032-0935
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Esculin, a pH-sensitive fluorescent dye, was used to indicate light-dependent pH changes in leaves of *Spinacia oleracea* L. and *Pelargonium zonale* L. Shortly after its introduction into the leaves via the transpiration stream, esculin was localized mainly in the symplasm. An increase in its blue fluorescence on illumination with red actinic

excess phenylphosphate but was not affected by phosphoserine or phosphothreonine. The relationship between the amt. of phosphorylated tyrosine **measured** by the title FCM technique and total **cellular** phosphotyrosine **measured** by phosphoamino acid anal. was linear in vanadate-treated BALB/c 3T3 **cells**. Treatment of B31 **cells** for 48 h with herbimycin A, a benzenoid ansamycin antibiotic, to decrease the expression and tyrosine kinase activity of pp60v-src caused redns. of 42% in anti-pp60v-src and 58% in anti-phosphotyrosine antibody immunofluorescence. DNA staining with the **fluorescent dye** propidium iodide showed no **cell** cycle specificity in the binding of either antibody. Herbimycin A also caused the transformed **cell** line to revert to the morphol., actin configuration, and growth behavior of untransformed **cells**; these changes were reversed within 12 h after removal of the drug. Flow cytometric evaluation of tyrosine kinase expression and activity was fast and easy, and the results correlated well with other **measures** of **cell** phenotype. This technique can be used to quantitate the effects of drugs on oncogenic proteins such as pp60v-src and their assocd. tyrosine kinase activity.

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ACCESSION NUMBER: 1988:489165 HCAPLUS
DOCUMENT NUMBER: 109:89165
TITLE: Quantitation of lymphocyte intracellular free calcium signals using indo-1
AUTHOR(S): Owen, Charles S.
CORPORATE SOURCE: Dep. Biochem., Jefferson Med. Coll., Philadelphia, PA, 19107, USA
SOURCE: Cell Calcium (1988), 9(3), 141-7
CODEN: CECADV; ISSN: 0143-4160
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The Ca-responsive **fluorescent dye** indo-1 was used in lymphocyte suspensions to **measure** changes in internal free Ca concn., $[Ca^{2+}]_i$, in response to crosslinking of **cell** surface Ig. The quantitation of $[Ca^{2+}]_i$ requires that indo-am ester used to load the **cells** be completely hydrolyzed to the indo-1 form inside the **cells**. This was greatly facilitated in the lymphocyte by the detergent Pluronic F-127. The quantitation of $[Ca^{2+}]_i$ transients also requires an est. of the fraction of the **cells** that contribute to the obsd. changes. The use of **excessive** amts. of intracellular dye can buffer $[Ca^{2+}]_i$ transients, and this effect was used to est. the size of the pool of Ca that is available for release when the B **cell** is stimulated by anti-Ig.

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Full Text **Citing References**

ACCESSION NUMBER: 1978:146729 HCAPLUS
DOCUMENT NUMBER: 88:146729
TITLE: Effects of staphylococcin 1580 on **cells** and membrane vesicles of Bacillus subtilis W23
AUTHOR(S): Weerkamp, A.; Vogels, G. D.
CORPORATE SOURCE: Fac. Sci., Univ. Nijmegen, Nijmegen, Neth.
SOURCE: Biochimica et Biophysica Acta (1978), 539(3), 386-97
CODEN: BBACAQ; ISSN: 0006-3002
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Uptake of L-glutamic acid [56-86-0] was inhibited, and preaccumulated L-glutamic acid was released from B. subtilis **cells** treated with

staphylococcin 1580 [39280-49-4]. Uptake of α -methylglycoside [97-30-3] was enhanced at low bacteriocin concns. and inhibited by **excess** bacteriocin. Inhibition of amino acid uptake into membrane vesicles was somewhat less sensitive to staphylococcin 1580 than uptake into whole **cells** under similar conditions, when the bacteriocin concn. was expressed per wt. unit of membrane protein. Inhibition of uptake into vesicles was independent of the electron donor system used, but varied with different substrates. Influx of L-glutamic acid into vesicles under anaerobic conditions was severely hampered by staphylococcin 1580. The L-glutamic acid carrier functions were only slightly affected. Staphylococcin 1580 abolished the membrane potential induced by respiration or by a K diffusion potential in the presence of valinomycin, as **measured** with the **fluorescent dye** 3,3'-dipropylthiadicarbocyanine. The effects of staphylococcin 1580 on **cells** and membrane vesicles allowed the classification into 3 groups with different sensitivity to the staphylococcin concn.

=> d his

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FILE 'REGISTRY' ENTERED AT 13:02:47 ON 10 JUN 2004

FILE 'HCAPLUS' ENTERED AT 13:03:02 ON 10 JUN 2004

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L1      10816 S FLUORESCENT () DYE
L2      4138 S L1 AND CELL?
L3      51 S L2 AND EXCESS?
L4      14 S L3 AND MEASURE?
L5      14 S L4 NOT METHINE?
L6      14 S L4 NOT ?METHINE?
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=> s l6 and remove?

546422 REMOVE?

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L7      0 L6 AND REMOVE?
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=> log y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	47.37	48.00
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-9.70	-9.70

STN INTERNATIONAL LOGOFF AT 13:05:45 ON 10 JUN 2004